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July 31, 1992

Mr. Don Ferrier
Project Manager
EG&G Rocky Flats, Inc.
P. O. Box 464
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Golden, Colorado 80402-0464

Subject: Rocky Flats Plant Solar Evaporation Ponds Stabilization Project [WBS 235A, 236A, 235E, & 236E TREATABILITY STUDY REPORT AND PROCESS FORMULATION REPORT, POND 207C/CLARIFIER - PRELIMINARY DRAFT - HALLIBURTON NUS ROCKY FLATS] IMPORTANT TOPICS
RF-HED-92-0474 - **REVISED**

Dear Mr. Ferrier:

Listed below are answers to the questions you asked concerning the above-referenced report:

1. QUESTION: Where has the product density procedure been provided to EG&G?

   RESPONSE: The procedure was presented in the Treatability Study SECTION 5 for the Clarifier & 207C Pond. The formulation presentation worksheet will be included in DRAFT 3 of the Process Control Plan.

2. QUESTION: Please relate water to pozzolan ratio to product density in terms of pounds/gallon.

   RESPONSE: The Treatability Study & Process Control Plan provide the equations to calculate the specific gravity of the output product for a given water to pozzalan ratio. They also provide the calculations to account for the air entrapped during the mixing of the waste with the pozzolans in the RCM [the entrapped air will be measured daily using a HALLIBURTON Pressurized Mud Cup]. However, this value is not expected to change very much during the period of processing.

   The specific gravity can be converted to lbs./gallon by multiplication with 8.345. Eg: Specific Gravity of Water = 1.0;
   Density in lbs/gal. = 1 x 8.345 = 8.345 lbs/gal.

3. QUESTION: How often will data points be collected at the Compupac?

   RESPONSE: The frequency of data collection can be set ranging from 1 to 99 second increments. The project team needs to be very sensitive to the amount of date requiring collection. We have ascertained that a product shift of processing (10 hours) collecting data every second will need to store and printout three megabytes of data. It is our recommendation that this level of detail is unmanageable and will be onerous to all parties. HNUS has committed to provide all certification documentation within 36 hours of each shift's processing of waste.

   We recommend collecting data on frequencies approaching a 15 second increment. This should provide a reasonable compromise for the level of effort and documentation requirements required.

4. QUESTION: How much time after the sample is withdrawn does the operator have to perform density measurements?

RESPONSE: There are several responses required to this question. Each have been documented but may require clarification for EG&G to interpret the significance of some of the analyses performed during the Treatability Study.

During the casting of the waste, three different types of samples will have to be obtained:

- initial samples for density and air entrainment
- samples to cast cylinders for long term storage
- samples for product certification (TCLP, Paint Can, and Paint Can, and Paint Filter Tests).

The HALLIBURTON Mud Cup test provides the density and the degree of air entrainment. Although it is preferable to conduct this test within 10-15 minutes of mixing, the "gel" matrix can be mechanically reslurried without causing any adverse effects on the product quality. For the second and third category of samples; these samples should be collected and prepared within two (2) hours of casting. If the period exceeds 10-15 minutes a handmixing will be required to rehomogenize the slurry since the material starts to "gel" within 15 minutes of casting if vibration & mechanical mixing is eliminated. Remixing during the two (2) hour period has a negligible impact on the product.

This response supersedes the draft copy of this letter given to L. Collins yesterday. It is our understanding that these responses answer L. Collins questions raised in our office on July 29 involving quality of the waste form. We hope that this memo provides the data necessary to address M. Prochazka's comments noted in his internal memo dated July 14, 1992.

If your group has further questions, please advise me at your earliest convenience.

Sincerely,

HALLIBURTON NUS ENVIRONMENTAL CORPORATION

Ted A. Bittner
Project Manager

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Attachments

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